

Carl Zeiss et al
Z8929-US Fs/sw

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What is claimed is:

1. A microscopy system for observing an object positionable in an object plane, the system comprising:

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at least one objective lens arrangement for receiving an object side beam emanating from the object plane and for transforming the object side beam into an image side beam;

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plural ocular systems, wherein each ocular system comprises at least one ocular tube having at least one ocular for generating an image of the object plane from the image side beam, wherein each of the plural ocular systems further comprises at least one image projector having a display for superimposing an image displayed by the display with the beam path of the ocular system such that the image of the object plane is perceived by the observer in superposition with the image of the display, and wherein at least one optical setting of a first ocular system of the plural ocular systems is adjustable independently of a corresponding optical setting of a second ocular system of the plural ocular systems; and

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30 a controller for generating the image displayed by the display of the first ocular system, wherein the controller is configured to generate the displayed image from a first input image based on the at least one optical setting of the first ocular system.

2. The microscopy system according to claim 1, wherein
the controller is configured to generate the displayed
image from a second input image independently of the
at least one optical setting, wherein the second input
image is superimposed with the first input image.
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3. The microscopy system according to claim 1, wherein
the first ocular system comprises a first camera and
the second ocular system comprises a second camera,
10 and wherein the controller is configured to determine
the at least one optical setting based on a comparison
of an image detected by the first camera with an image
detected by the second camera.
- 15 4. The microscopy system according to claim 1, wherein
the objective lens arrangement comprises an optical
axis, wherein the ocular tube of the first ocular
system is rotatable about the objective lens
arrangement and the optical axis, wherein the at least
20 one optical setting comprises a rotational position of
the ocular tube about the optical axis, and wherein
the controller is configured to generate the displayed
image from the first input image by rotating the first
input image about an image rotation angle determined
25 in dependence of the rotational position of the ocular
tube.
- 30 5. The microscopy system according to claim 4, further
comprising an angle detector for detecting an angle
between the ocular tube and a housing of the objective
lens arrangement, and wherein the controller is
configured to determine the image rotation angle based
on the detected angle.
- 35 6. The microscopy system according to claim 4, wherein
the first ocular system comprises a first camera and

the second ocular system comprises a second camera, and wherein the controller is configured to determine the image rotation angle based on a comparison of an image detected by the first camera and an image detected by the second camera.

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7. The microscopy system according to claim 1, wherein the first ocular system comprises a zoom system for changing a magnification of the image of the object plane generated by the first ocular system independently of a magnification of the image of the object plane generated by the second ocular system, wherein the at least one optical setting comprises the magnification of the image generated by the first ocular system, and wherein the controller is configured to generate the displayed image from a first input image by scaling with a scale factor determined in dependence of the magnification of the first ocular system.
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8. The microscopy system according to claim 7, further comprising a position sensor for detecting a setting of components of the zoom system with respect to each other, and wherein the controller is configured to determine the scale factor based on the detected setting.
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9. The microscopy system according to claim 7, wherein the first ocular system comprises a first camera and the second ocular system comprises a second camera, and wherein the controller is configured to determine the scale factor based on a comparison of an image detected by the first camera and an image detected by the second camera.
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10. The microscopy system according to claim 1, wherein at least one of the plural ocular systems is a binocular system.

5 11. A microscopy method for displaying a magnified image of an object plane for plural observers, the method comprising:

10 light optically generating images of the object plane with plural optics, wherein a first optics of the plural optics has at least one optical parameter which may be adjusted independently of a corresponding optical parameter of a second optics of the plural optics;

15 electronically generating at least one representation of a first input image based on the at least one adjustable optical parameter; and

20 superimposing an image of the electronically generated representation with the light optically generated image generated with the first optics.

25 12. The microscopy method according to claim 11, wherein at least a portion of the first optics is rotatable about an axis, and wherein the electronical generation of the at least one representation comprises a rotation of the representation based on a rotational position of the portion of the first optics about the axis.

30 35 13. The microscopy method according to claim 11, wherein a magnification of the first optics is changable, and wherein the electronical generation of the at least one representation comprises scaling of the representation based on the magnification.